

NOTE ON A GENUS OF GRYLLIDÆ, NEW FOR SOUTH AUSTRALIA; AND DESCRIPTION OF A NEW SPECIES OF MYRMECOPHILA.

By J. G. O. TEPPER, F.L.S., &c.

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The Myrmecophilides form a tribe of the family of the Gryllidæ, or Crickets, and are divided by M. Saussure into four legions, with 11 genera and 40 species (Mel. Orth., vol. II., p. 455, &c.), to which Mons. Brunner adds the genus *Lissostrachelus* and six species, of which three are distributed among as many older genera, thus bringing up the totals to 12 and 46 respectively. These are distributed over all continents, only two species of one genus (*Calochilus*) being recorded from Australia, and one each of three other genera from New Caledonia, Tahiti, and Fiji respectively, but none endemic apparently.

The typical genus *Myrmecophila* comprises four species, viz., *M. acervorium*, L., S. Europe and N. Africa; *M. ochraceus*, Fisch. Sicily and Asia Minor; *M. dubius*, Saussure, Bitang (Malaysia?); and *M. Americanus*, Saussure, S. America; but none for Australia or its adjoining island regions. The genus is not only remarkable for the small size of its members, but also for the peculiar habit of living exclusively with and under the protection of particular species of ants.

Through the zeal and assiduity of A. Zietz, Esq., F.L.S., and Assistant-Director of the S.A. Museum, a pair of these minute crickets were secured on May 17th last among ants under large stones on a hillside near Adelaide, and placed under my care, when, on examination, they turned out to be a new species of the above interesting genus.

Both specimens were caught alive, although exceedingly nimble and active; but the male died soon after capture from injuries received. The female reached me alive next morning, and I kept her so for three days by moistening the inside of the cork stopper of the small glass tube with a little saliva daily and occasionally renewing the air by opening the same. The little creature seemed to like its strange fare and scarcely quitted the cork even while being turned about during inspection. The following description was drawn up from the fresh and living specimens:—

MYRMECOPHILA AUSTRALIS, sp. n.

Male. Pale brownish-ochreous, ovate, flattened above, very thinly and minutely sericeous, head (except vertex), underside, and legs mostly whitish. Antennæ slightly longer than the body,

base subglobose, pale, scape brownish, hirsute. Eyes distinct, minute, oval, obliquely behind and external of antennæ, covered by the margin of the pronotum, black.

Pronotum subglobose, incrassated foremargin produced behind as a small acute tooth merging into the median line, ferruginous, disk pale, hindmargin fuscous, with narrow pale border. Mesonotum and metanotum, also abdominal dorsal segments, bordered darkly behind.

Anterior and intermediary legs short and slender, hind legs about twice as long as the body, femora, tibiæ and tarsi nearly subequal, in length, pale. Hind femora ovate, about twice as long than wide, externally very convex, with a small protuberance before the middle near the upper margin; inferior margin ciliate, ridges terminating by distinct teeth; apex truncated, with a small, circular depressed area (resembling a tympanum), immediately beneath the insertion of the tibiæ, bearing a minute spinelet on its hindmargin (also present in the female but less perfectly); internal side of femora deeply concave.

Hind tibiæ slightly shorter than femora, subcompressed, upper margin concave, lower convex; lower external spur minute, straight, upper much larger, distinctly recurved; internal spurs very long, slightly decurved; upper margin with one external and two internal spines, ciliated.

Hind tarsi longer than tibiæ, very slender; first joint with three minute oblique spines and a longer terminal spur, second joint very short, third joint extremely slender and claws most minute.

Cerci about two-thirds of the length of the body, hirsute base thick, gradually tapering, apex acute, brownish ferruginous. Supra anal lamina transverse, very short, rotundate, smooth.

Female.—Resembling male, but larger and darker. Antennæ more and base less incrassated. Eyes more prominent, less obtected. Abdomen wider posteriorly, darker above and beneath. Hind femora shorter and rather less robust. Supra-anal lamina subtrigonal, transverse; a fine groove on either side of the middle when alive. Ovipositor rather stout, nearly half the length of the body; subcylindrical, pale, slightly contracted in the middle; apex forming two parallel acute spines, dark brown.

		Male.	Female.
Length of body ...	...	3 mm.	4 mm.
Width " ...	...	2 "	2.4 "
Length of hind legs ...	...	5.5 "	
Length of hind femora ...	...	2.2 "	2 "
Width of hind femora ...	...	1.5 "	1.3 "
Length of ovipositor ...	...	—	2 "

*Habitat.*—Hillsides near Adelaide, South Australia, under stones with ants.

When alive the insects are extremely active and nimble ; when at rest the antennæ are carried subhorizontally diverging outwards in an easy curve ; the femora are placed at an angle of 40—50° to the body, the tibiæ being adpressed to the inner upper margin and nearly parallel with it (not along the lower as is usually the case) the tarsus extending backwards in the same direction as the body. In this position the concavity of the inner side strongly resembles that of an outer ear, and suggests the idea of serving as an auditory organ together with the membranous plate at the apex. After death the body shrinks considerably and also becomes darker in color.

The species resembles the European one considerably, but differs in various details, such as size, the presence of eyes, the curved hind tibiæ, and having the spurs and spines of different form, &c.

